

In the Claims

Please add the following claims:

214. (New) A communication system for decoding signals having three or more analog signal levels to represent information transmitted by a first computer over a plurality of pairs of twisted wires to a second computer, said communication system including a transceiver comprising:

a plurality of receivers and transmitters operatively coupled to respective ones of said plurality of said pairs of twisted wires, wherein each of said plurality of receivers comprises:

an analog to digital converter;

an automatic gain control circuit; and

a digital adaptive equalizer, said equalizer further comprising a feed forward equalizer, a decision feedback equalizer, and a data slicer;

wherein each of said analog to digital converters sampling said analog signal at a sampling rate, each of said automatic gain control circuits receiving said analog signal from one of said pairs of twisted wires and providing gain control at the input to a respective one of said analog to digital converters, and each of said equalizers producing recovered digital data from said sampled analog signal provided at the input of said equalizer; and

wherein said transceiver also includes a plurality of transmitters that simultaneously transmit three or more analog signal levels to said first computer over said plurality of pairs of twisted wires.

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215. (New) The system of claim 214, wherein said transceiver combines said recovered data from each of said digital adaptive equalizers into a single recovered digital data stream.

216. (New) The system of claim 215, wherein said single recovered data stream is Ethernet data.

217. (New) The system of claim 214, wherein said communication system is an Ethernet system.

218. (New) The system of claim 214, wherein the digital data is Ethernet data with a data rate of at least 100 Mbps.

219. (New) The system of claim 214, wherein each of said equalizer includes an adder that sums the output of respective ones of said decision feedback equalizers and said feed forward equalizers.

220. (New) The system of claim 219, wherein the digital data is Ethernet data.

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